

## ABSTRACT

### Powder mixture for resorbable calcium phosphate biocements

**[00067]** The present invention relates to a powder mixture for resorbable calcium phosphate biocements, which mixture consists of 40-99% by volume of powder having a particle size of  $0.1-10\mu\text{m}$ , 1-20% by volume of powder having a particle size of  $10-43\mu\text{m}$  and 0-59% by volume of powder having a particle size of  $43-315\mu\text{m}$ , which powder is obtained by grinding the spontaneously crystallizing melts of a material comprising crystalline and X-ray amorphous phases, which material

a) according to  $^{31}\text{P}$ -NMR measurements, contains  $\text{Q}_0$ -groups of orthophosphate and  $\text{Q}_1$ -groups of diphosphate, the orthophosphates or  $\text{Q}_0$ -groups making up 65 to 99.9% by weight relative to the total phosphorus content of the powder mixture and the diphosphates or  $\text{Q}_1$ -groups making up 0.1 to 35% by weight relative to the total phosphorus content of the powder mixture, and

b) according to X-ray diffractometric measurements and relative to the total weight of the powder mixture, contains 35 to 99.9% by weight of a main crystal phase consisting of various Ca-orthophosphates and 0.1 to 20% by weight of a secondary crystal phase consisting of various Ca-diphosphates and chain phosphates, and

c) besides the main crystal phase, contains an X-ray amorphous phase which in total makes up 0.1 to 65% by weight relative to the total weight of the powder mixture.